

## **BRACKET FOR HANGING ARTICLES**

### **CROSS REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims priority to U.S. Provisional Patent Application Serial No. 60/456,142, filed March 20, 2003.

### **STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT**

[0002] (Not Applicable)

### **BACKGROUND OF THE INVENTION**

#### **Technical Field**

[0003] The present invention relates generally to devices for supporting articles and more particularly, to devices for hanging decorative items.

#### **Description of Related Art**

[0004] Many individuals may wish to decorate their homes or workspaces with decorative items, such as paintings, mirrors or pictures. Currently, there are a number of devices available to the public that facilitate the hanging of these items. In particular, many retailers offer different types of brackets for supporting decorative items that include a thin supporting wire that traverses along their backside. One type of commercially available bracket includes a main body portion and a stationary hook that

is attached to the main body portion. The end of the hook extends away from the main body portion for purposes of capturing the supporting wire attached to a decorative item. Additionally, the main body portion normally includes one or more apertures for receiving a fastener, such as a screw or a nail. A user may position the main body portion of the bracket against a suitable hanging surface such as a wall and may drive the fastener through the appropriate aperture to secure the bracket to the hanging surface.

**[0005]** Once the bracket is secured to the hanging surface, the user may position the decorative item close to the hanging surface with the backside of the item facing the hook of the bracket. Typically, the user then lowers the decorative item to permit the supporting wire of the decorative item to engage the hook. Once engaged, the bracket may support the decorative item.

**[0006]** Significantly, however, it may be taxing to effectuate the engagement of the supporting wire and the hook. Specifically, the supporting wire may not "catch" the hook on the user's first attempt to hang the decorative item. In fact, it may take three or more attempts before the supporting wire engages the hook. As such, it may be quite frustrating to hang these items. Moreover, there is an increased risk that the user may drop or lose control of the decorative item during the engagement attempt, which may result in injury to the user or damage to the item. The supporting wire may even engage a portion of the bracket that was not designed for supporting the decorative article. For example, the supporting wire may accidentally catch one of the heads of the fasteners used to secure the main body portion of the bracket to the hanging surface,

which may cause the user to believe mistakenly that the decorative item is secure. Thus, there is a need for a bracket that overcomes the disadvantages listed above without a substantial increase in costs or complexity.

### **SUMMARY OF THE INVENTION**

**[0007]** The present invention concerns a bracket for hanging articles. The bracket includes a body portion having at least one side wall and at least one first aperture in which the body portion is attachable to a swingable hook. The bracket also includes a swingable hook. The swingable hook may have a hooking portion, at least one side portion and at least one engaging portion in which the at least one engaging portion is attached to the at least one side portion. The first apertures of the body portion engage the end portions of the swingable hook. In addition, in one embodiment, the side portions of the hook may frictionally engage inner surfaces of the side walls such that the swingable hook is swingably set to a plurality of positions. In one embodiment, at least one of the inner surfaces of the side walls of the body portion may include at least one protrusion extending away from the inner surfaces of the side walls. The side portions of the swingable hook rest on the protrusions, thereby providing additional support to the frictional engagement between the side portions and the inner surfaces of the side walls.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

**[0008]** Other objects, features and advantages of the present invention will become apparent upon reading the following detailed description, while referring to the attached drawings, in which:

**[0009]** FIG. 1 illustrates a perspective view of a bracket for hanging articles in accordance with the inventive arrangements.

**[0010]** FIG. 2 illustrates another perspective view of the bracket of FIG. 1 in accordance with the inventive arrangements.

**[0011]** FIG. 3 illustrates a side view of the bracket of FIG. 1 in accordance with the inventive arrangements.

**[0012]** FIG. 4 illustrates another perspective view of the bracket of FIG. 1 in accordance with the inventive arrangements.

**[0013]** FIG. 5 illustrates yet another perspective view of the bracket of FIG. 1 in accordance with the inventive arrangements.

**[0014]** FIG. 6 illustrates a perspective view of another bracket for hanging articles in accordance with the inventive arrangements.

**[0015]** FIG. 7 illustrates a side view of the bracket of FIG. 6 in accordance with the inventive arrangements.

**[0016]** FIG. 8 illustrates another perspective view of the bracket of FIG. 6 in accordance with the inventive arrangements.

**[0017]** FIG. 9 illustrates another side view of the bracket of FIG. 6 in accordance with the inventive arrangements.

**[0018]** FIG. 10 illustrates a portion of a side wall of another example of a bracket in accordance with the inventive arrangements.

**[0019]** FIG. 11 illustrates a portion of a swingable hook of the bracket of FIG. 10 in accordance with the inventive arrangements.

**[0020]** FIG. 12 illustrates the swingable hook of FIG. 11 engaged to the side wall of FIG. 10 in accordance with the inventive arrangements.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

**[0021]** The present invention is more particularly described in the following examples that are intended to be illustrative only since numerous modifications and variations therein will be apparent to those skilled in the art. As used in the specification and in the claims, the singular form "a," "an," and "the" may include plural referents unless the context clearly dictates otherwise. Also, as used in the specification and in the claims, the term "comprising" may include the embodiments "consisting of" and "consisting essentially of."

**[0022]** The present invention will now be further described through the following drawings. It is to be understood that these drawings are non-limiting and are presented to provide a better understanding of various embodiments of the present invention and are not intended to represent every possible embodiment of the present invention.

**[0023]** Referring to FIG. 1, a perspective view of a bracket 10 for hanging articles is shown. The bracket 10 may be used to hang virtually any type of hanging article, including decorative items like paintings, mirrors or pictures. The bracket 10 may

include a body portion 12 and a swingable hook 14. The body portion 12 may have a back wall 16, one or more side walls 18 attached to the back wall 16 and a top wall 20. The top wall 20 may be attached to the back wall 16 and the side walls 18. One or more of the back wall 16, the side walls 18 and the top wall 20 may be separate components and may be secured to one another to create the body portion 12. In another arrangement, the body portion 12 may be a single, integrated unit molded from, for example, the same piece of material.

**[0024]** As illustrated, a top 17 of each side wall 18 may be sloped downward, and the top wall 20 may slope downwards at an angle that at least substantially corresponds to the downward slope of the tops 17 of the side walls 18. Additionally, the side walls 18 may extend above the top wall 20, a feature that will be discussed later. The back wall 16, the side walls 18 and the top wall 20 may be made of any type of durable material. Suitable examples include metal, plastic, ceramic or wood.

**[0025]** The swingable hook 14 may include one or more engaging portions 22, one or more side portions 24 and a hooking portion 26. The engaging portions 22 and the hooking portion 26 may be attached to the side portions 24. The hooking portion 26 is the part of the swingable hook 14 that may be used to engage the support wire, for example, of a hanging article. Those of ordinary skill in the art will appreciate that the hooking portion 26 is not limited to the particular arrangement illustrated in FIG. 1, as the hooking portion 26 may be any suitable structure capable of ensuring that a hanging article remains engaged to the swingable hook 14.

**[0026]** Like the back wall 16, the side walls 18 and the top wall 20, the components of the swingable hook 14 may be constructed of any suitable material, including metal, plastic, ceramic or wood. Of course, it must be understood that the composition of the swingable hook 14 is in no way limited to these particular materials. Moreover, the construction of the swingable hook 14 is not limited to the same type of material used to build the back wall 16, the side walls 18 or the top wall 20.

**[0027]** At least one of the side walls 18 may include one or more first apertures 28. These first apertures 28 may be used to engage the engaging portions 22 of the swingable hook 14. In one arrangement and without limitation, the engaging portions 22 and the first apertures 28 may be substantially circular. An example of their engagement is shown in FIG. 2 in which the engaging portions 22 have been inserted through the first apertures 28. This type of engagement allows the swingable hook 14 to swing towards and away from the back wall 16 of the body portion 12. It is important to note that the invention is not limited to the particular arrangement illustrated in FIG. 2. For example, it is not necessary for the first apertures 28 to pierce the side walls 18 completely, as the first apertures 28 may be constructed as a substantially hollow protrusion that extends away from the side walls 18. In this arrangement, the engaging portions 22 may be inserted in the hollow protrusions. In addition, the side walls 18 may include any suitable number of first apertures 28, and the additional first apertures 28 may be positioned above or below the location containing the first apertures 28 illustrated in the drawings.

**[0028]** The top wall 20 may include one or more second apertures 30, and the back wall 16 may include one or more corresponding second apertures 30. The second apertures 30 on the top wall 20 and the back wall 16 are created by boring through the top wall 20 and the back wall 16 at an angle relative to the back wall 16. In one embodiment, the angle at which the bores are drilled may correspond at least substantially to the angle at which the tops 17 of the side walls 18 slope downwards (relative to the back wall 16). One or more fasteners 32, such as a nail or a screw, may be inserted through the second apertures 30 on the top wall 20 and then through the corresponding second apertures 30 on the back wall 16. Because of the angle at which the second apertures 30 were bored, the fasteners 32 may slide through the second apertures 30 at a predetermined angle relative to the back wall 16 of the body portion 12. Without limitation and merely as an example, the predetermined angle may be any angle between roughly forty-five and seventy degrees relative to the back wall 16. Also, while the fasteners discussed herein are described as fasteners that pierce the body portion and/or surface, such as a nail, screw, bolt or the like, it is also contemplated that the body portion may be attached to the surface using a fastener having an adhesive characteristic. An adhesive characteristic is one that creates a chemical or mechanical bond between two surfaces through contact of the two surfaces to one another. Additionally, for metallic surfaces, the body portion may be attached by placing a magnet on a back wall of the body portion.



**[0029]** Referring to FIG. 3, the angle at which the fasteners 32 extend from the back wall 16 and the angle at which the top wall 20 and the tops 17 of the side walls 18 slope downwards respective to the back wall 16 are more clearly illustrated.

**[0030]** Referring back to FIG. 2, when the back wall 16 of the body portion 12 is positioned against a hanging surface 34, a user may insert the fasteners 32 through the second apertures 30. Subsequently, the user may drive the fasteners 32 through the second apertures 30 such that the fasteners 32 pierce the hanging surface 34. Although not necessary, the user may drive the fasteners 32 to the point where a head 36 of the fasteners 32 is substantially flush with the top wall 20. The hanging surface 34 may be any surface suitable for supporting the body portion 12 and the weight of the hanging article. Suitable examples include walls or doors. The angle at which the fasteners 32 are positioned relative to the back wall 16, and hence the hanging surface 34, may provide a sturdy engagement between the fasteners 32 and the hanging surface 34.

**[0031]** The back wall 16 may also include one or more third apertures 37. When the back wall 16 is positioned against the hanging surface 34, one or more fasteners 32 may be driven through the third aperture 37 and the hanging surface 34. In this example, the fastener 32 may be a wall anchor, a wall screw or a sheet metal screw. A fastener 32 that has been inserted through the third aperture 37 to secure the body portion 12 to the hanging surface 34 may be used to supplant the driving of fasteners 32 through the second apertures 30. Alternatively, this type of engagement may be used

to supplement any fasteners 32 that have been inserted through the second apertures 30 for purposes of securing the body portion 12 to the hanging surface 34.

**[0032]** In one arrangement and as noted earlier, one or more of the side walls 18 may extend above the top wall 20. This feature may prevent the support wire on a hanging article from accidentally engaging the heads 36 of either one of the fasteners 32 if such heads 36 are not completely flush with the top wall 20. Additionally, the downward slope of the tops 17 of the side walls 18 (and the top wall 20) may help guide a support wire towards the swingable hook 14, if the support wire were to land on this area of the bracket 10 when a user attempts to hang an article.

**[0033]** Referring once again to FIG. 1, a distance  $D_1$  between the side portions 24 may be substantially the same as or greater than a distance  $D_2$ , the distance between inner surfaces 38 of the side walls 18. As noted earlier, the swingable hook 14 may be made of many different types of materials. In one arrangement, the swingable hook 14, irrespective of the material used in its construction, may be flexible. For example, a user may squeeze the side portions 24 towards or away from one another. In particular, by squeezing the side portions 24 towards one another, a user may decrease the distance  $D_1$  to enable the swingable hook 14 to be easily inserted in between the side walls 18.

**[0034]** Once inserted, the user may position the swingable hook 14 such that the engaging portions 22 are substantially lined up with the first apertures 28. The user may then release the swingable hook 14, and the engaging portions 22 and the side portions 24 may move towards the inner surfaces 38 of the side walls 18. The engaging

portions 22 may engage the first apertures 28. Because the distance  $D_1$  is substantially the same or greater than the distance  $D_2$ , the side portions 24 of the swingable hook 14 may frictionally engage the inner surfaces 38 of the side walls 18. This engagement is shown in FIG. 2.

**[0035]** Because of the frictional engagement, the swingable hook 14 may be swingably set to a plurality of positions. As an example, the user may pull the swingable hook 14 away from the back wall 16, and when the user removes the pulling force, the swingable hook 14 will remain at least substantially in the position last reached when the force was removed. This setting is illustrated in FIG. 2. Of course, the invention is not limited to this example, as the swingable hook 14 may be set to a wide range of positions. As another example, the swingable hook 14 may be pushed towards the back wall 16 until the side portions 24 are stopped by the back wall 16. This particular setting is shown in FIG. 4.

**[0036]** Referring to FIGS. 2 and 4, pulling the swingable hook 14 away from the back wall 16 of the body portion 12 facilitates the hanging of a hanging article. Specifically, it is easier for the support wire of a hanging article to engage the hooking portion 26 of the swingable hook 14. Once the support wire has engaged the swingable hook 14, the user may lower the hanging article. The weight of the hanging article may overcome the frictional engagement between the side portions 24 and the inner surfaces 38 of the side walls 18 and may force the swingable hook 14 back towards the body portion 12 until the side portions 24 come into contact with the back wall 16.

**[0037]** In one particular arrangement, one or more protrusions 40 may be positioned on the inner surfaces 38 of the side walls 18. These protrusions 40 may extend away from the inner surfaces 38 on which they are situated. Additionally, the protrusions 40 may be paired into opposing protrusions 40 in which one protrusion 40 located on one inner surface 38 may be directly positioned across from another protrusion 40 mounted on the other inner surface 38. Such an arrangement is illustrated in FIGS. 1, 2 and 4; however, it is understood that the invention is not limited in this regard, as the protrusions 40 may be positioned in accordance with any other suitable manner.

**[0038]** The protrusions 40 may provide a location on which the side portions 24 of the swingable hook 14 may rest. For example, referring to FIGS. 2 and 5, the user may pull the swingable hook 14 away from the back wall 16. Because the swingable hook 14 is flexible, the protrusions 40 may force the side portions 24 towards one another such that the side portions 24 slide over the protrusions 40 as the user pulls the swingable hook 14. In one arrangement, the protrusions 40 may have a roughly spherical shape to permit the side portions 24 to slide easily over the protrusions 40. Once the side portions 24 move over the protrusions 40, the side portions 24 may rest upon the protrusions 40. An example is shown in FIG. 5. This resting engagement may hold the swingable hook 14 in place while the user attempts to engage the support wire of the hanging article with the swingable hook 14. After the support wire engages the swingable hook 14 and the article is lowered, the weight of the article may force the side portions 24 to slide back over the protrusions 40.

**[0039]** The protrusions 40 may be used to supplement the frictional engagement between the side portions 24 and the inner surfaces 38 of the side walls 18. Alternatively, the protrusions 40 may be used in lieu of the frictional engagement to swingably set the swingable hook 14. In either arrangement, the invention is not limited to merely having two opposing protrusions 40, as the inner surfaces 38 may include any suitable number of protrusions 40 positioned in any suitable manner.

**[0040]** Referring to FIG. 6, another example of a bracket 10 in accordance with the inventive arrangements is shown. In this example, at least a portion of the hooking portion 26 of the swingable hook 14 may be positioned such that it points back towards the back wall 16. The operation of the bracket 10 is similar to that described with respect to the previous drawings. This arrangement, however, narrows the gap between the hooking portion 26 and the back wall 16. In one particular arrangement, an end 42 of the hooking portion 26 may extend to a point such that a portion of the end 42 is positioned in the area between the side walls 18. This example is more clearly illustrated in FIG. 7.

**[0041]** Constructing the swingable hook 14 in accordance with this embodiment may improve the stability of a decorative item being supported by the bracket 10. For example, this hooking portion 26 may make it more difficult for the supporting wire of a decorative item to disengage the hooking portion 26 accidentally. Those of ordinary skill in the art will appreciate that the angle at which the hooking portion 26 extends towards the back wall 16 is not limited to that shown in FIGS. 6 and 7; the hooking portion 26 may extend towards the back wall 16 at any other suitable angle.

**[0042]** Referring back to FIG. 6 and to FIG. 8, a tab 44 may be attached to the back wall 16. In one arrangement but without limitation, the tab 44 may be constructed out of the same material as the back wall 16 and may be attached near the bottom of the back wall 16. Alternatively, the tab 44 and the back wall 16 may be a single, integrated unit and may be molded from, for example, the same material. In either arrangement, the tab 16 may include a first segment 46 and a second segment 48 in which the first segment 46 and the second segment 48 extend away from one another at a predetermined angle. As an example, and referring to FIG. 9, the predetermined angle is such that the first segment 46 runs substantially parallel with an edge 50 of the side walls 18; moreover, the second segment 48 may run substantially parallel to the top wall 20 (for purposes of clarity, the swingable hook 14 is not shown in FIG. 9). Of course, the invention is in no way limited to this particular example.

**[0043]** Moving back to FIG. 6 and 8, the second segment 48 of the tab 16 may include one or more tab apertures 52. Additionally, the back wall 16 may include one or more corresponding fourth apertures 54. As best shown in FIGS. 8 and 9, a fastener 32 may be inserted through the tab aperture 52 and aligned with the corresponding fourth aperture 54. Subsequently, the fastener 32 may be driven through the hanging surface 34, which may secure the lower end of the bracket 10 to the hanging surface 34. The engagement of this fastener 32 may supplement the engagement of the fasteners 32 presented in the discussion relating to FIG. 2, or it may be used in lieu of the fasteners 32 of FIG. 2. Similar to the fasteners 32 described with respect to FIG. 2, the fastener 32 may be driven through the hanging surface 34 at an angle based on the alignment of

the tab aperture 52 and the corresponding fourth aperture 54, which may improve the engagement of the bracket 10 to the hanging surface 34.

**[0044]** As previously described (see FIGS. 1, 2, 4 and 5), the engaging portions 22 of the swingable hook 14 may engage the first apertures 28 located on the side walls 18. Thus far, the first apertures 28 have been illustrated as being substantially circular in shape. Referring to FIG. 10, a close-up view of another example of a suitable first aperture 28 is shown. Here, the first aperture 28 may include a substantially circular top portion 56 and a slot 58. The top portion 56 may flow into the slot 58 to create a single opening. The slot 58 may run along an axis A that, in one arrangement, may be substantially parallel with the back wall 16. Of course, the slot 58 may be positioned along any other suitable axis.

**[0045]** As shown in FIG. 11, the engaging portion 22 of the swingable hook 14 may be modified to engage the first aperture 28 of FIG. 10. Specifically, the engaging portion 22 may include a rectangular-shaped protrusion 60 that may fit within the slot 58 of the first aperture 28 of FIG. 10. In addition, at least a portion of the engaging portion 22 may remain substantially circular, as illustrated in previous embodiments.

**[0046]** In operation, referring to FIGS. 10 and 11, a user may align the engaging portion 22 with the first aperture 28 such that the protrusion 60 is positioned along an axis that is not parallel to that of axis A, the axis along which the slot 58 runs. When the user releases the side portions 24 of the swingable hook 14, the protrusion 60 of the engaging portion 22 may move through the top portion 56 of the first aperture 28. The protrusion 60 may move through the top portion 56 until a face 62 (see FIG. 11) of the

engaging portion 22 contacts the edges of the top portion 56, as shown in FIG 12. Because the protrusion 60 is not lined up with the slot 58, however, the protrusion 60 will not slide down the slot 58. At this point, the engaging portions 22, and hence the swingable hook 14, are free to rotate.

**[0047]** Once the support wire of a decorative item engages the swingable hook 14 and the item is lowered, the weight of the item may force the swingable hook 14 towards the back wall 16. As the swingable hook 14 moves towards the back wall 16, the engaging portions 22, including the protrusions 60, may rotate as well. The protrusion 60 will eventually line up with the slot 58, and the protrusion 60 will slide down the length of the slot 58 until it reaches the bottom of the slot 58. At this point, the protrusion 60 is "locked" in the slot 58, and the engaging portions 22, and hence the swingable hook 14, are no longer able to rotate. This embodiment may add further stability to the bracket 10.

**[0048]** Although the present invention has been described in conjunction with the embodiments disclosed herein, it should be understood that the foregoing description is intended to illustrate and not limit the scope of the invention as defined by the claims.